UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,313	01/30/2004	Stephen E. Terry	I-2-0192.5US	6324

24374 7590 08/09/2006

VOLPE AND KOENIG, P.C.
DEPT. ICC
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
MILORD, MARCEAU	
ART UNIT	**PAPER NUMBER**
2618	

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/768,313	TERRY ET AL.	
	Examiner	Art Unit	
	Marceau Milord	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 4, 7, 13 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 7, 10-12 of U.S. Patent No. 6909901 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because the removal of the features of a means for allocating a plurality of radio resources to the at least one MT in response to receiving the requested downlink channel measurement from the at least one MT; and means for allocating timeslots to be used by the preferred MTs; and means for transmitting the designated blocks of downlink data to the given MTs in accordance with the allocated timeslots after the given MTs respond to the request is not non-obvious over the claims of 6909901 B2 and therefore is not patentably distinct from each other.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward et al (US Patent No 5701294) in view of Hashem et al (US Patent No 6721569 B1).

Regarding claims 1,and 3, Ward et al discloses a method for optimizing data transmission in a wireless digital communication system (fig. 3A and fig 6), including a base station and a plurality of user equipment, the method comprising: receiving blocks of downlink data at the base station for distribution to the plurality of UEs; transmitting from the base station to at least one UE having a pending downlink transmission, a request for a downlink channel quality measurement (col. 7, lines 27-42;col. 3, lines 39-56; col. 5, lines 8-19); the at least one UE measuring and reporting the downlink channel quality to the base station; the at least one UE receiving a downlink physical channel allocation signal from the base station (figs. 6-7; col. 6, line 46- col. 7, line 16; col. 7, line 30- col. 8, line 55).

However, Ward does not specifically disclose the steps of receiving a downlink physical channel allocation signal from the base station; setting up transmission parameters based on the downlink physical channel allocation; and the at least one UE receiving blocks of the downlink data from the base station in accordance with the downlink physical channel allocation.

On the other hand, Hashem et al, from the same field of endeavor, discloses a method and apparatus for selecting and signaling the identity of sub-carriers to be used for transmission of data in a radio communication system, and for using other sub-carriers. A remote unit determines which sub-carriers are acceptable for use in data transmission by comparing the signal to interference ratio of each sub-carrier with a threshold. A base station transmits data over the acceptable sub-carriers at the optimum link mode or link modes (col. 2, lines 25- 66). Furthermore, the remote unit may calculate the average channel quality of groups of sub-carriers whose channel quality is above the threshold, in which case the average channel quality is transmitted to the base station. The base station receives a return signal, and extracts from the

return signal a sequence of numbers, and at least one value by which the base station can determine at least one link mode. In addition, the base station may allocate for data transmission at low transmission rate sub-carriers within some of the remaining unacceptable sub-carriers, and may divert transmission power from the remaining unused unacceptable sub-carriers to other sub-carriers (col. 3, lines 3-39; col. 4, line 4- col. 5, line 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Hashem to the communication system of Ward in order to allocate time slots based upon the estimated radio channel quality and achieve optimum voice quality over a broad range of carrier to interference ratio conditions.

Regarding claim 2, Ward et al as modified discloses a method for optimizing data transmission in a wireless digital communication system (fig. 3A and fig 6), wherein the allocation signal indicates a particular coding rate, modulation type and at least one allocated slot (col. 3, lines 10-35; col. 3, line 43- col. 4, line 15).

Claim 5 is similar in scope to claim 2, and therefore is rejected under a similar rationale.

Regarding claim 4 and 6, Ward et al discloses a wireless digital communication system (fig. 3A and fig 6), for optimizing data transmission, the system comprising: a plurality of user equipment; and a base station in communication with the UEs, the base station further comprising: means for receiving blocks of downlink data for distribution to the plurality of UEs; means for transmitting to at least one of the UEs having a pending downlink transmission, a request for a downlink channel quality measurement (col. 7, lines 27-42;col. 3, lines 39-56; col. 5, lines 8-19); means for receiving from the at least one UE having a pending downlink

transmission, a report of the results of the downlink channel quality measurement (figs. 6-7; col. 6, line 46- col. 7, line 16; col. 7, line 30- col. 8, line 55).

However, Ward does not specifically disclose the steps of a means for transmitting to the at least one UE having a pending downlink transmission, blocks of the downlink data from the base station in accordance with the downlink physical channel allocation signal.

On the other hand, Hashem et al, from the same field of endeavor, discloses a method and apparatus for selecting and signaling the identity of sub-carriers to be used for transmission of data in a radio communication system, and for using other sub-carriers. A remote unit determines which sub-carriers are acceptable for use in data transmission by comparing the signal to interference ratio of each sub-carrier with a threshold. A base station transmits data over the acceptable sub-carriers at the optimum link mode or link modes (col. 2, lines 25- 66). Furthermore, the remote unit may calculate the average channel quality of groups of sub-carriers whose channel quality is above the threshold, in which case the average channel quality is transmitted to the base station. The base station receives a return signal, and extracts from the return signal a sequence of numbers, and at least one value by which the base station can determine at least one link mode. In addition, the base station may allocate for data transmission at low transmission rate sub-carriers within some of the remaining unacceptable sub-carriers, and may divert transmission power from the remaining unused unacceptable sub-carriers to other sub-carriers (col. 3, lines 3-39; col. 4, line 4- col. 5, line 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Hashem to the communication system of Ward in order to allocate time slots based

upon the estimated radio channel quality and achieve optimum voice quality over a broad range of carrier to interference ratio conditions.

Regarding claims 7 and 9, Ward et al discloses a method for optimizing data transmission in a wireless digital communication system (fig. 3A and fig. 6), including a base station and a plurality of wireless devices, the method comprising: receiving blocks of downlink data at the base station for distribution to a plurality of wireless devices; transmitting from the base station to a wireless device having a pending downlink transmission, a request for a downlink channel quality measurement (col. 7, lines 27-42;col. 3,lines 39-56; col. 5, lines 8-19); the wireless device having a pending downlink transmission measuring and reporting the downlink channel quality to the base station; the base station signaling a downlink physical channel allocation to the wireless device having a pending downlink transmission (col. 5, lines 19-67; col. 7, line 44-col. 8, line 16).

However, Ward does not specifically disclose a wireless device having a pending downlink transmission setting up transmission parameters based on the downlink physical channel allocation; and the wireless device having a pending downlink transmission receiving blocks of the downlink data from the base station in accordance with the downlink physical channel allocation.

On the other hand, Hashem et al, from the same field of endeavor, discloses a method and apparatus for selecting and signaling the identity of sub-carriers to be used for transmission of data in a radio communication system, and for using other sub-carriers. A remote unit determines which sub-carriers are acceptable for use in data transmission by comparing the signal to interference ratio of each sub-carrier with a threshold. A base station transmits data over the

acceptable sub-carriers at the optimum link mode or link modes (col. 2, lines 25- 66). Furthermore, the remote unit may calculate the average channel quality of groups of sub-carriers whose channel quality is above the threshold, in which case the average channel quality is transmitted to the base station. The base station receives a return signal, and extracts from the return signal a sequence of numbers, and at least one value by which the base station can determine at least one link mode. In addition, the base station may allocate for data transmission at low transmission rate sub-carriers within some of the remaining unacceptable sub-carriers, and may divert transmission power from the remaining unused unacceptable sub-carriers to other sub-carriers (col. 3, lines 3-39; col. 4, line 4- col. 5, line 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Hashem to the communication system of Ward in order to allocate time slots based upon the estimated radio channel quality and achieve optimum voice quality over a broad range of carrier to interference ratio conditions.

Regarding claims 10-12, Ward et al discloses a method for optimizing data transmission in a wireless digital communication system (fig. 3A and fig. 6), including a base station and a plurality of user equipment , the method comprising: receiving blocks of downlink data at the base station for distribution to a plurality of UEs; sending an allocation signal indicating parameters including a particular coding rate, modulation type and at least one allocated timeslot to ones of the UEs having a pending downlink transmission (col. 7, lines 27-42;col. 3, lines 39-56; col. 5, lines 8-19;figs. 6-7; col. 6, line 46- col. 7, line 16; col. 7, line 30- col. 8, line 55).

However, Ward does not specifically disclose the features of UEs having a pending downlink transmission setting up transmission characteristics based on the indicated parameters ;

and the UEs having a pending downlink transmission receiving blocks of the downlink data from the base station in accordance with the parameters.

On the other hand, Hashem et al, from the same field of endeavor, discloses a method and apparatus for selecting and signaling the identity of sub-carriers to be used for transmission of data in a radio communication system, and for using other sub-carriers. A remote unit determines which sub-carriers are acceptable for use in data transmission by comparing the signal to interference ratio of each sub-carrier with a threshold. A base station transmits data over the acceptable sub-carriers at the optimum link mode or link modes (col. 2, lines 25- 66). Furthermore, the remote unit may calculate the average channel quality of groups of sub-carriers whose channel quality is above the threshold, in which case the average channel quality is transmitted to the base station. The base station receives a return signal, and extracts from the return signal a sequence of numbers, and at least one value by which the base station can determine at least one link mode. In addition, the base station may allocate for data transmission at low transmission rate sub-carriers within some of the remaining unacceptable sub-carriers, and may divert transmission power from the remaining unused unacceptable sub-carriers to other sub-carriers (col. 3, lines 3-39; col. 4, line 4- col. 5, line 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Hashem to the communication system of Ward in order to allocate time slots based upon the estimated radio channel quality and achieve optimum voice quality over a broad range of carrier to interference ratio conditions.

Regarding claim 8, Ward et al as modified discloses a method for optimizing data transmission in a wireless digital communication system (fig. 3A and fig. 6), including a base

station and a plurality of wireless devices, wherein the allocation signal indicates a particular coding rate, modulation type and at least one allocated slot (col. 3, lines 10-35; col. 3, line 43- col. 4, line 15).

Regarding claims 13, Ward et al discloses a wireless digital communication system (fig. 3A and fig. 6), for optimizing data transmission, the system comprising: a base station; and a plurality of user equipment in communication with the base station, each UE further comprising: means for receiving a request from the base station for a downlink channel quality measurement (col. 7, lines 27-42;col. 3, lines 39-56; col. 5, lines 8-19; means for setting up transmission parameters based on the downlink physical channel allocation signal; and means for receiving blocks of the downlink data from the base station in accordance with the set transmission parameters (figs. 6-7; col. 6, line 46- col. 7, line 16; col. 7, line 30- col. 8, line 55).

However, Ward does not specifically disclose a means for measuring and reporting the results of the downlink channel quality measurement to the base station; means for receiving a downlink physical channel allocation signal from the base station.

On the other hand, Hashem et al, from the same field of endeavor, discloses a method and apparatus for selecting and signaling the identity of sub-carriers to be used for transmission of data in a radio communication system, and for using other sub-carriers. A remote unit determines which sub-carriers are acceptable for use in data transmission by comparing the signal to interference ratio of each sub-carrier with a threshold. A base station transmits data over the acceptable sub-carriers at the optimum link mode or link modes (col. 2, lines 25- 66). Furthermore, the remote unit may calculate the average channel quality of groups of sub-carriers whose channel quality is above the threshold, in which case the average channel quality is

transmitted to the base station. The base station receives a return signal, and extracts from the return signal a sequence of numbers, and at least one value by which the base station can determine at least one link mode. In addition, the base station may allocate for data transmission at low transmission rate sub-carriers within some of the remaining unacceptable sub-carriers, and may divert transmission power from the remaining unused unacceptable sub-carriers to other sub-carriers (col. 3, lines 3-39; col. 4, line 4- col. 5, line 54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Hashem to the communication system of Ward in order to allocate time slots based upon the estimated radio channel quality and achieve optimum voice quality over a broad range of carrier to interference ratio conditions.

Regarding claim 14, Ward et al as modified discloses a wireless digital communication system (fig. 3A and fig. 6), for optimizing data transmission (fig. 3A and fig. 6), wherein the allocation signal indicates a particular coding rate, modulation type and at least one allocated slot (col. 3, lines 10-35; col. 3, line 43- col. 4, line 15).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 571-272-7853. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MARCEAU MILORD

Marceau Milord
Primary Examiner
Art Unit 2618